Introduction:

The City of Joshua (Johnson County, TX) is a growing community located in the D/FW Metroplex. The identity and location of the City make it an ideal place for residences, as well as commercial, industrial, and institutional establishments. With this growth comes the need to curtail and mitigate increased threats to the environment, and to the health and public welfare of the City's residents.

A majority of the City drains directly into the headwaters of Village Creek. The creek serves as a major tributary to Lake Arlington, one of the primary sources of drinking water for much of the Metroplex. Pollutants that enter Village Creek in Joshua eventually enter Lake Arlington. Additionally, the Creek has experienced significant erosion and sloughing, often resulting in conditions that are hazardous to Joshua's citizens.

The City has requested an Environmental Protection Agency Special Appropriations Act Project (EPA SAAP) Grant to complete construction of several improvements in and around the Village Creek corridor. The project is collectively titled **"The Mountain Valley/Village Creek Drainage Improvements"** and is comprised of eight (8) projects in different locations throughout the City. A summarization of the projects and their anticipated construction cost is provided in Table 1. In general, the goal of each of the projects is to reduce environmental threat and/or reduce threat to public safety and welfare.

Table 1 – List of Projects for "The Mountain Valley/Village Creek Drainage Improvements"

ITEM NO.	PROJECT LOCATION	QUANTITY	UNIT	TOTAL
1	OAK HILL CULVERT REPLACEMENT (on Village Creek)	1	LS	$354,450
2	EDGEHILL OUTFALL	1	LS	$171,112
3	111 COUNTRY CLUB	1	LS	$106,533
4	409 COUNTRY CLUB	1	LS	$244,504
*5	607 COUNTRY CLUB	1	LS	($84,902)
6	MOUNTAIN VALLEY OUTFALL 1 (14-16 Mountain Valley Blvd.)	1	LS	$124,796
7	MOUNTAIN VALLEY OUTFALL 2 (3344 Mountain Valley Blvd.)	1	LS	$58,071
8	MOUNTAIN VALLEY OUTFALL 3 (3340 Mountain Valley Blvd.)	1	LS	$168,280
	TOTAL PROJECTED CONSTRUCTION COST (rounded)			**$1,227,422.00**
*	This is an alternative and is the responsibility of the City of Joshua.			

The ensuing pages contain a Work Plan that identifies the details requested by the "Suggested Outline for Special Appropriations Projects Work Plan" for each particular project.

Project Title: **Project 1 – Oakhill Culvert Replacement**

Applicant Name: **City of Joshua**
101 S. Main Street
Joshua Texas, 76058
817-558-7447

Project Objective & Needs:

Oakhill Drive serves as a primary access point to the Oakhill neighborhood in the City of Joshua. Recent flash flooding events spurred by heavy spring rains have resulted in severe erosion in and around the pipe culverts that convey Village Creek, an eventual source of drinking water and a 303(d) Impaired Water Body (per the EPA), across Oakhill Drive. The roadway atop the culverts has been undermined and collapsed. This failure has resulted in a significant threat to public health as it impedes neighborhood ingress and egress, specifically for emergency responders and personnel.

Project Description & Activities:

Anticipated Activities: ☐ PLANNING ☒ DESIGN ☒ CONSTRUCTION

Description: This project consists of removal of the failed culverts and replacement with newer culverts of equal or greater hydraulic conveyance capacity. The project also proposes to reconstruct the failed roadway embankment and pavement surface.

Existing Conditions: 8' CMP (Corrugated Metal Pipe) bottom rotted out, and erosion has eroded the surrounding creek channel and roadway. Structural Failure of road and bank exists.

Proposed Mitigation: Install 2-12'X 8' precast box culverts with new headwalls and gabion treatment of culvert entrance and exit. Water and Sewer adjustments at crossing will be required as well as easement acquisition for culvert entrance/exit and channel.

Geographic Location (Latitude/Longitude):

32.469130/ -97.381673 (see attached map)

Environmental Results & Benefits

The environmental and public health benefits to this project consist of greatly reducing the flooding and erosion caused by the existing failed culvert and channel. This project will give school bus and emergency responders access to the neighborhood during heavy rainfall events. Also, the drinking water will have less sedimentation since replacing the culvert will reduce erosion. The benefits of completing the project can be measured by the decreased amount of over roadway flooding.

Roles and Responsibilities of Recipient and EPA

Role of Recipient:

- As necessary, perform pertinent environmental and archaeological studies and assessments, including, but not limited to: NEPA, U.S. Army Corps Section 404, etc.
- As necessary, procure Civil Engineer for preparation of project evaluations, studies, and construction documents (plans and specifications). Procurement shall be carried out in manner commensurate with federal regulations required by the grant process, including meeting all good faith efforts and the requirements of 40 CFR 33.
- Perform Quality Assurance and Quality Control (QA/QC) to verify that project elements comply with applicable federal statutes and regulations.
- Procure Contractor for construction of improvements. Procurement shall be carried out in manner commensurate with federal regulations required by the grant process, including meeting all good faith efforts and the requirements of 40 CFR 33.
- Provide oversight during construction (inspection) and process payments and disbursements.
- Recordkeeping, reporting, and communication of project needs and status with EPA Project Officer as necessary and required.
- Process reimbursement requests through EPA.

Role of EPA:

- Ensure project compliance with grant terms and conditions.
- Review and approve procurement process.
- Review professional services and construction contracts and amendments as dictated by contract amount.
- Onsite evaluations and final inspection.
- Reimbursement.

Project Schedule:

Design:	2/2017-8/2017
Bid:	10/2017
Construction:	12/2017-9/2018

Project Budget:

Project 1 - Oak Hill Culvert Replacement
Conceptual Opinion of Probable Cost

ITEM NO.	DESCRIPTION OF ITEMS	QUANTITY	UNIT	UNIT COST	TOTAL
1	General Site Preparation	1	LS	$5,750.00	$5,750.00
2	Removal of Trees and Brush Downstream	1	LS	$9,200.00	$9,200.00
3	Removal of Culvert / Headwalls	1	LS	$5,750.00	$5,750.00
4	Excavation / Channel Grading	374	CY	$40.25	$15,053.50
5	Parallel Concrete Headwall & Apron	2	EA	$8,625.00	$17,250.00
6	2-12' x 8' Reinforced Box Culvert	60	LF	$2,070.00	$124,200.00
7	Gabion Basket Wall	140	CY	$460.00	$64,400.00
8	6" Reinforced Concrete Channel Bottom	85	SY	$74.75	$6,353.75
9	Block Sodding (Staked)	250	SY	$8.05	$2,012.50
10	HMAC Pavement Repair (30' x 30')	100	SY	$115.00	$11,500.00
11	6" CTS Cement Treated Subgrade	100	SY	$31.62	$3,162.00
12	1.5" Crushed Stone Backfill	40	CY	$115.00	$4,600.00
13	Guard Rail	300	LF	$69.00	$20,700.00
14	Easement Acquisition	1,800	SF	$0.58	$1,044.00
15	Miscellaneous Utility Adjustment	1	LS	$17,242.00	$17,242.00
	SUBTOTAL BASE BID				**$308,217.75**
	DESIGN / ENGINEERING / SURVEYING				**$46,232.59**
	TOTAL PROJECTED CONSTRUCTION COST				**$354,450.00**

Project Title: **Project 2 – Edgehill Outfall Reconstruction**

Applicant Name: **City of Joshua**
101 S. Main Street
Joshua Texas, 76058
817-558-7447

Project Objective & Needs:

Edgehill Drive is a residential street within the City that serves as the primary residential access point for approximately thirty residences. The original corrugated metal pipe (CMP) cross-drainage culverts have rusted and corroded to the point that the pavement atop the culverts is failing. This failure has resulted in a significant threat to public health as it impedes neighborhood ingress and egress, specifically for emergency responders and personnel. Downstream erosion has also occurred and resulted in conveyance of suspended solids and other materials into Village Creek, an eventual source of drinking water and a 303d Impaired Water Body (per the EPA).

Project Description & Activities:

Anticipated Activities: ☐ PLANNING ☒ DESIGN ☒ CONSTRUCTION

Description: This project consists of removal of the failed culverts and replacement with newer culverts of equal or greater hydraulic conveyance capacity. The project also proposes to reconstruct the failed roadway embankment and pavement surface.

Existing Conditions: 36" CMP (Corrugated Metal Pipe) has corroded, rusted, and failed to the point that the pavement has caved in at upstream end. Erosion and sediment transport has occurred in the grass-lined channel downstream of the creek, resulting in increased suspended solids conveyed to Village Creek, a source of drinking water for downstream communities.

Proposed Conditions: Replacement of culvert with 5'x 3'precast box and new headwall, including gabion treatment of culvert exit and replacement of upstream system with 30" RCP (Round Concrete Pipe). Water and Sewer adjustments required at crossing and easement acquisition for channel.

Geographic Location (Latitude/Longitude):

32.479938/ -97.370558 (see attached map)

Environmental Results & Benefits

The environmental and public health benefits to this project consist of greatly reducing the flooding and erosion caused by the existing failed culvert and channel. This project will give community and emergency responders access to the neighborhood during heavy rainfall events. Also, the drinking water will have less sedimentation since replacing the culvert will reduce erosion. The benefits of completing the project can be measured by the decreased amount of over roadway flooding.

Roles and Responsibilities of Recipient and EPA

Role of Recipient:

- As necessary, perform pertinent environmental and archaeological studies and assessments, including, but not limited to: NEPA, U.S. Army Corps Section 404, etc.
- As necessary, procure Civil Engineer for preparation of project evaluations, studies, and construction documents (plans and specifications). Procurement shall be carried out in manner commensurate with federal regulations required by the grant process.
- Perform Quality Assurance and Quality Control (QA/QC) to verify that project elements comply with applicable federal statutes and regulations.
- Procure Contractor for construction of improvements. Procurement shall be carried out in manner commensurate with federal regulations required by the grant process.
- Provide oversight during construction (inspection) and process payments and disbursements.
- Communicate project needs and status with EPA Project Officer as necessary and required. Process reimbursement requests through EPA.

Role of EPA:

- Ensure project compliance with grant terms and conditions.
- Review and approve procurement process.
- Review professional services and construction contracts and amendments as dictated by contract amount.
- Onsite evaluations and final inspection.
- Reimbursement.

Project Schedule:

Design:	2/2017-8/2017
Bid:	10/2017
Construction:	12/2017-9/2018

Project Budget:

Project 2 - Edgehill Outfall Reconstruction
Conceptual Opinion of Probable Cost

ITEM NO.	DESCRIPTION OF ITEMS	QUANTITY	UNIT	UNIT COST	TOTAL
1	General Site Preparation	1	LS	$5,750.00	$5,750.00
2	Removal of Trees and Brush Downstream	1	LS	$5,750.00	$5,750.00
3	Removal of Culvert / Headwalls	1	LS	$4,025.00	$4,025.00
4	Removal of Concrete Paving	1400	SF	$6.90	$9,660.00
5	Excavation / Channel Grading	40	CY	$57.50	$2,300.00
6	Concrete Headwall/Wingwall & Apron	1	EA	$10,350.00	$10,350.00
7	5' x 3' Reinforced Box Culvert	60	LF	$368.00	$22,080.00
8	30" RCP	60	LF	$115.00	$6,900.00
9	5' SDMH	1	EA	$4,600.00	$4,600.00
10	Gabion Basket Wall	80	CY	$460.00	$36,800.00
11	Curlex FibreNet ErosionControl Blanket	40	SY	$8.05	$322.00
12	Block Sodding (Staked)	715	SY	$8.05	$5,755.75
13	6" Reinforced Concrete Pavement	120	SY	$138.00	$16,560.00
14	HMAC Pavement Repair	50	SY	$115.00	$5,750.00
15	Easement Acquisition	1200	SF	$0.58	$696.00
16	Miscellaneous Utility Adjustment	1	LS	$11,494.00	$11,494.00
	SUBTOTAL BASE BID				**$148,792.75**
	DESIGN / ENGINEERING / SURVEYING				**$22,318.91**
	TOTAL PROJECTED CONSTRUCTION COST				**$171,112.00**

Project Title: **Project 3 – 111 Country Club Drive Drainage Improvements**

Applicant Name: **City of Joshua**
101 S. Main Street
Joshua Texas, 76058
817-558-7447

Project Objective & Needs:

Country Club Drive is one of the primary residential streets within the Mountain Valley subdivision and provides connectivity across Village Creek. A tributary to Village Creek is conveyed beneath the road through a large arch-shaped corrugated metal pipe (CMP). The crossing is undersized, which has resulted in rampant erosion and conveyance of downstream sediment. This results in further sedimentation in Village Creek, an eventual source of drinking water and a 303d Impaired Water Body (per the EPA)

Project Description & Activities:

Anticipated Activities: ☐ PLANNING ☒ DESIGN ☒ CONSTRUCTION

Description: This project consists of removal of the failed culverts and replacement with newer culverts of equal or greater hydraulic conveyance capacity. The project also proposes to remediate erosive conditions in the downstream channel.

Existing Conditions: 54" wide Elliptical or Arch CMP (Corrugated Metal Pipe) exhibits rusting, corrosion, and failure along the invert, resulting in channel bed and bank erosion. The existing downstream channel exhibits accumulation and deposition of silt, with existing trees and underbrush creating adverse hydraulic conditions.

Proposed Conditions: Install 5' x 3' precast box culverts crossing with new headwalls, 250 feet of downstream tree and brush removal, and grading & stabilization of the existing grass-lined channel. Water and Sewer adjustments as needed at crossing and easement acquisition at channel.

Geographic Location (Latitude/Longitude):

32.479051/ -97.375123 (see attached map)

Environmental Results & Benefits

The environmental and public health benefits to this project consist of greatly reducing the flooding and erosion caused by the existing failed culvert and channel. This project will eliminate standing stagnant water that breeds mosquitos and facilitates other pests harmful for public health. Also, the drinking water will have less sedimentation since replacing the culvert will reduce erosion. The benefits of completing the project can be measured by the decreased amount of over roadway flooding.

Roles and Responsibilities of Recipient and EPA

Role of Recipient:

- As necessary, perform pertinent environmental and archaeological studies and assessments, including, but not limited to: NEPA, U.S. Army Corps Section 404, etc.
- As necessary, procure Civil Engineer for preparation of project evaluations, studies, and construction documents (plans and specifications). Procurement shall be carried out in manner commensurate with federal regulations required by the grant process, including meeting all good faith efforts and the requirements of 40 CFR 33.
- Perform Quality Assurance and Quality Control (QA/QC) to verify that project elements comply with applicable federal statutes and regulations.
- Procure Contractor for construction of improvements. Procurement shall be carried out in manner commensurate with federal regulations required by the grant process, including meeting all good faith efforts and the requirements of 40 CFR 33.
- Provide oversight during construction (inspection) and process payments and disbursements.
- Recordkeeping, reporting, and communication of project needs and status with EPA Project Officer as necessary and required.
- Process reimbursement requests through EPA.

Role of EPA:

- Ensure project compliance with grant terms and conditions.
- Review and approve procurement process.
- Review professional services and construction contracts and amendments as dictated by contract amount.
- Onsite evaluations and final inspection.
- Reimbursement.

Project Schedule:

Design:	2/2017-8/2017
Bid:	10/2017
Construction:	12/2017-9/2018

Project Budget:

Project 3 - 111 Country Club Drive Culvert Replacement
Conceptual Opinion of Probable Cost

ITEM NO.	DESCRIPTION OF ITEMS	QUANTITY	UNIT	UNIT COST	TOTAL
1	General Site Preparation	1	LS	$5,750.00	$5,750.00
2	Removal of Culvert / Headwalls	1	LS	$3,450.00	$3,450.00
3	Removal of Trees and Brush Downstream	1	LS	$9,200.00	$9,200.00
4	Excavation / Channel Grading	315	CY	$40.25	$12,678.75
5	5'x3' Precast Box Culvert	50	LF	$368.00	$18,400.00
6	Concrete Headwalls	2	EA	$5,750.00	$11,500.00
7	18" Thick Gabion Mattress	4	CY	$460.00	$1,840.00
8	Block Sodding (Staked)	722	SY	$8.05	$5,812.10
9	Curlex FibreNet Erosion Control Blanket	150	SY	$8.05	$1,207.50
10	6" HMAC Pavement Repair w/Flex Base	67	SY	$115.00	$7,705.00
11	Easement Acquisition	12,250	SF	$0.58	$7,105.00
12	Miscellaneous Utility Adjustment	1	LS	$7,989.00	$7,989.00
	SUBTOTAL BASE BID				**$92,637.35**
	DESIGN / ENGINEERING / SURVEYING				**$13,895.57**
	TOTAL PROJECTED CONSTRUCTION COST				**$106,533.00**

Project Title: **Project 4 – 409 Country Club Drive Drainage Improvements**

Applicant Name: **City of Joshua**
101 S. Main Street
Joshua Texas, 76058
817-558-7447

Project Objective & Needs:

Country Club Drive is one of the primary residential streets within the Mountain Valley subdivision and provides connectivity across Village Creek. A tributary to Village Creek is conveyed beneath the road through a 48-inch circular corrugated metal pipe (CMP). Erosion is evident at the crossing, which results in further sedimentation in Village Creek, an eventual source of drinking water and a 303d Impaired Water Body (per the EPA).

Project Description & Activities:

Anticipated Activities: ☐ PLANNING ☒ DESIGN ☒ CONSTRUCTION

Description: This project consists of removal of the failed culverts and replacement with newer culverts of equal or greater hydraulic conveyance capacity. Reconstruct the existing grass-lined channel to include hard-armoring of the flowline and banks to reduce sediment runoff.

Existing Conditions: 48" CMP (Corrugated Metal Pipe) corroded, rusted, and failing. The existing downstream channel is grass-lined with three large trees at risk.

Proposed Mitigation: Installation of 48" Reinforced Concrete Pipe (RCP) culvert crossing with new headwalls and hard-armoring of the existing channel. Water and Sewer adjustments as required at crossing and easement acquisition for channel.

Geographic Location (Latitude/Longitude):

32.482997/ -97.373342 (see attached map)

Environmental Results & Benefits

The environmental and public health benefits to this project consist of greatly reducing the flooding and erosion caused by the existing failed culvert and channel. This project will eliminate standing stagnant water that breeds mosquitos and facilitates other pests harmful for public health. Also, the drinking water will have less sedimentation since replacing the culvert will reduce erosion. The benefits of completing the project can be measured by the decreased amount of over roadway flooding.

Roles and Responsibilities of Recipient and EPA

Role of Recipient:

- As necessary, perform pertinent environmental and archaeological studies and assessments, including, but not limited to: NEPA, U.S. Army Corps Section 404, etc.
- As necessary, procure Civil Engineer for preparation of project evaluations, studies, and construction documents (plans and specifications). Procurement shall be carried out in manner commensurate with federal regulations required by the grant process, including meeting all good faith efforts and the requirements of 40 CFR 33.
- Perform Quality Assurance and Quality Control (QA/QC) to verify that project elements comply with applicable federal statutes and regulations.
- Procure Contractor for construction of improvements. Procurement shall be carried out in manner commensurate with federal regulations required by the grant process, including meeting all good faith efforts and the requirements of 40 CFR 33.
- Provide oversight during construction (inspection) and process payments and disbursements.
- Recordkeeping, reporting, and communication of project needs and status with EPA Project Officer as necessary and required.
- Process reimbursement requests through EPA.

Role of EPA:

- Ensure project compliance with grant terms and conditions.
- Review and approve procurement process.
- Review professional services and construction contracts and amendments as dictated by contract amount.
- Onsite evaluations and final inspection.
- Reimbursement.

Project Schedule:

Design:	2/2017-8/2017
Bid:	10/2017
Construction:	12/2017-9/2018

Project Budget:

Project 4 - 409 Country Club Drive
Conceptual Opinion of Probable Cost

ITEM NO.	DESCRIPTION OF ITEMS	QUANTITY	UNIT	UNIT COST	TOTAL
1	General Site Preparation	1	LS	$5,750.00	$5,750.00
2	Removal of Culvert / Headwalls	1	LS	$3,450.00	$3,450.00
3	Removal of Trees and Brush Downstream	1	LS	$9,200.00	$9,200.00
4	Excavation / Channel Grading	446	CY	$40.25	$17,951.50
5	48" RCP	50	LF	$258.75	$12,937.50
6	Concrete Headwalls	2	EA	$4,600.00	$9,200.00
7	Gabion Basket Wall	267	CY	$460.00	$122,820.00
8	18" Thick Gabion Mattress	4	CY	$460.00	$1,840.00
9	Block Sodding (Staked)	135	SY	$8.05	$1,086.75
10	6" Reinforced Concrete Channel Bottom	135	SY	$74.75	$10,091.25
11	6" HMAC Pavement Repair w/Flex Base	64	SY	$115.00	$7,360.00
12	Easement Acquisition	5,000	SF	$0.58	$2,900.00
13	Miscellaneous Utility Adjustment	1	LS	$8,025.00	$8,025.00
	SUBTOTAL BASE BID				**$212,612.00**
	DESIGN / ENGINEERING / SURVEYING				**$31,891.80**
	TOTAL PROJECTED CONSTRUCTION COST				**$244,504.00**

Project Title: **Project 5 – 607 Country Club Drive Drainage Improvements**

Applicant Name: **City of Joshua**
101 S. Main Street
Joshua Texas, 76058
817-558-7447

Project Objective & Needs:

Country Club Drive is one of the primary residential streets within the Mountain Valley subdivision and provides connectivity across Village Creek. A tributary to Village Creek is conveyed beneath the road through a 3'x2' elliptical corrugated metal pipe (CMP), which shows signs of corrosion, rusting, and deterioration. Flow from the CMP enters an existing concrete-lined channel. There is no defined flowpath at the end of this concrete channel, resulting in erosion and further sedimentation in Village Creek, an eventual source of drinking water and a 303d Impaired Water Body (per the EPA).

Project Description & Activities:

Anticipated Activities: ☐ PLANNING ☒ DESIGN ☒ CONSTRUCTION

Description: This project consists of removal of the failed culverts and replacement with newer culverts of equal or greater hydraulic conveyance capacity. Construct a new grass-lined channel to provide positive drainage and a vegetated conveyance path that reduces sediment runoff.

Existing Conditions: 3' x 2' Elliptical CMP (Corrugated Metal Pipe) bottom rotted out. An existing concrete-lined channel conveys flows downstream into Village Creek.

Proposed Mitigation: Acquire easements for proposed improvements. Remove existing structure and replace with 3' x 2' precast reinforced concrete box culvert with new headwalls, and construct 200 linear feet of grass lined channel (approximately 5-foot bottom width, approximately 3-foot depth) where the current concrete channel (to remain in place) ends. Perform water and sewer utility adjustments as required.

Geographic Location (Latitude/Longitude):

32.484680/ -97.370510 (see attached map)

Environmental Results & Benefits

The environmental and public health benefits to this project consist of greatly reducing the flooding and erosion caused by the existing failed culvert and channel. This project will eliminate standing stagnant water that breeds mosquitos and facilitates other pests harmful for public health. Also, the drinking water will have less sedimentation since replacing the culvert will reduce erosion. The benefits of completing the project can be measured by the decreased amount of over roadway flooding.

Roles and Responsibilities of Recipient and EPA

Role of Recipient:

- As necessary, perform pertinent environmental and archaeological studies and assessments, including, but not limited to: NEPA, U.S. Army Corps Section 404, etc.
- As necessary, procure Civil Engineer for preparation of project evaluations, studies, and construction documents (plans and specifications). Procurement shall be carried out in manner commensurate with federal regulations required by the grant process, including meeting all good faith efforts and the requirements of 40 CFR 33.
- Perform Quality Assurance and Quality Control (QA/QC) to verify that project elements comply with applicable federal statutes and regulations.
- Procure Contractor for construction of improvements. Procurement shall be carried out in manner commensurate with federal regulations required by the grant process, including meeting all good faith efforts and the requirements of 40 CFR 33.
- Provide oversight during construction (inspection) and process payments and disbursements.
- Recordkeeping, reporting, and communication of project needs and status with EPA Project Officer as necessary and required.
- Process reimbursement requests through EPA.

Role of EPA:

- Ensure project compliance with grant terms and conditions.
- Review and approve procurement process.
- Review professional services and construction contracts and amendments as dictated by contract amount.
- Onsite evaluations and final inspection.
- Reimbursement.

Project Schedule:

Design:	2/2017-8/2017
Bid:	10/2017
Construction:	12/2017-9/2018

Project Budget:

Project 5 - 607 Country Club Drive
Conceptual Opinion of Probable Cost

ITEM NO.	DESCRIPTION OF ITEMS	QUANTITY	UNIT	UNIT COST	TOTAL
1	General Site Preparation	1	LS	$6,074.00	$6,074.00
2	Removal of Culvert / Headwalls	1	LS	$3,450.00	$3,450.00
3	Excavation / Channel Grading	378	CY	$40.25	$15,214.50
4	3'x2' Reinforced Box Culvert	50	LF	$230.00	$11,500.00
5	Concrete Headwalls	2	EA	$4,600.00	$9,200.00
6	18" Thick Gabion Mattress	1	CY	$460.00	$460.00
7	Block Sodding (Staked)	778	SY	$8.05	$6,262.90
8	Curlex FibreNet ErosionControl Blanket	111	SY	$8.05	$893.55
9	6" HMAC Pavement Repair w/Flex Base	62	SY	$115.00	$7,130.00
10	Easement Acquisition	9,800	SF	$0.58	$5,684.00
11	Miscellaneous Utility Adjustment	1	LS	$8,001.00	$8,001.00
	SUBTOTAL BASE BID				**$73,869.95**
	DESIGN / ENGINEERING / SURVEYING				**$11,031.89**
	TOTAL PROJECTED CONSTRUCTION COST				**$84,902.00**

Project Title: **Project 6 – Mountain Valley Outfall # 1 (14-16 Mountain Valley Blvd.)**

Applicant Name: **City of Joshua**
101 S. Main Street
Joshua Texas, 76058
817-558-7447

Project Objective & Needs:

Mountain Valley Boulevard is one of the primary residential streets within the Mountain Valley subdivision. A tributary to Village Creek is conveyed beneath the road through a 36" circular reinforced concrete pipe (RCP) which shows signs of deterioration towards the downstream end of the pipe. Flow from the pipe enters an existing grass-lined channel which shows signs of erosion, resulting in further sedimentation in Village Creek, an eventual source of drinking water and a 303d Impaired Water Body (per the EPA).

Project Description & Activities:

Anticipated Activities: ☐ PLANNING ☒ DESIGN ☒ CONSTRUCTION

Description: This project consists of removal of the failed culverts and replacement with newer culverts of equal or greater hydraulic conveyance capacity. Extend the grass-lined channel to provide positive drainage and a vegetated conveyance path that reduces sediment runoff.

Existing Conditions: 36" reinforced concrete pipe (RCP) in good shape except for the downstream 6 feet. Pipe flows are conveyed through a grass-lined channel onto the golf course. There is no well-defined flowpath downstream of the existing channel.

Proposed Mitigation: Replace 6 feet of 36" RCP and reconstruct the downstream headwalls. Re-grade 200' of grass-lined channel (approximately 6-foot bottom width and 4-foot depth) and construct hard-armoring (concrete lining) to golf course property line. Once on the golf course, re-grade 150 feet of grass-lined channel (approximately 6-foot bottom and 3-foot depth) on golf course property. Perform water and sewer utility adjustments at crossings where required and easement acquisitions for channel.

Geographic Location (Latitude/Longitude):

32.483839 / -97.376513 (see attached map)

Environmental Results & Benefits

The environmental and public health benefits to this project consist of greatly reducing the flooding and erosion caused by the existing failed culvert and channel. This project will eliminate standing stagnant water that breeds mosquitos and facilitates other pests harmful for public health. Also, the drinking water will have less sedimentation since replacing the culvert will reduce erosion. The benefits of completing the project can be measured by the decreased amount of over roadway flooding.

Roles and Responsibilities of Recipient and EPA

Role of Recipient:

- As necessary, perform pertinent environmental and archaeological studies and assessments, including, but not limited to: NEPA, U.S. Army Corps Section 404, etc.
- As necessary, procure Civil Engineer for preparation of project evaluations, studies, and construction documents (plans and specifications). Procurement shall be carried out in manner commensurate with federal regulations required by the grant process, including meeting all good faith efforts and the requirements of 40 CFR 33.
- Perform Quality Assurance and Quality Control (QA/QC) to verify that project elements comply with applicable federal statutes and regulations.
- Procure Contractor for construction of improvements. Procurement shall be carried out in manner commensurate with federal regulations required by the grant process, including meeting all good faith efforts and the requirements of 40 CFR 33.
- Provide oversight during construction (inspection) and process payments and disbursements.
- Recordkeeping, reporting, and communication of project needs and status with EPA Project Officer as necessary and required.
- Process reimbursement requests through EPA.

Role of EPA:

- Ensure project compliance with grant terms and conditions.
- Review and approve procurement process.
- Review professional services and construction contracts and amendments as dictated by contract amount.
- Onsite evaluations and final inspection.
- Reimbursement.

Project Schedule:

Design: 2/2017-6/2017
Bid: 8/2017
Construction: 10/2017-2/2018

Project Budget:

Project 6 - Mountain Valley Outfall # 1
Conceptual Opinion of Probable Cost

ITEM NO.	DESCRIPTION OF ITEMS	QUANTITY	UNIT	UNIT COST	TOTAL
1	General Site Preparation	1	LS	$5,750.00	$5,750.00
2	Remove 6 LF Exist 36" RCP & Headwall	1	LS	$2,875.00	$2,875.00
3	Excavation / Channel Grading	496	CY	$40.25	$19,964.00
4	36" RCP	6	LF	$920.00	$5,520.00
5	Concrete Headwalls	1	EA	$4,370.00	$4,370.00
6	6" Reinforced Concrete Channel Liner	423	SY	$112.70	$47,672.10
7	Block Sodding (Staked)	600	SY	$8.05	$4,830.00
8	Curlex FibreNet Erosion Control Blanket	100	SY	$8.05	$805.00
9	Easement Acquisition	19,100	SF	$0.58	$11,078.00
10	Miscellaneous Utility Adjustment	1	LS	$5,654.00	$5,654.00
	SUBTOTAL BASE BID				**$108,518.10**
	DESIGN / ENGINEERING / SURVEYING				**$16,277.79**
	TOTAL PROJECTED CONSTRUCTION COST				**$124,796.00**

Project Title: **Project 7 – Mountain Valley Outfall # 2 (3344 Mountain Valley Blvd)**

Applicant Name: **City of Joshua**
101 S. Main Street
Joshua Texas, 76058
817-558-7447

Project Objective & Needs:

Mountain Valley Boulevard is one of the primary residential streets within the Mountain Valley subdivision. A tributary to Village Creek is conveyed beneath the road through a 24" circular reinforced concrete pipe (RCP), which appears to be in sound condition. Flow from the pipe enters an existing grass-lined channel which shows signs of erosion, resulting in further sedimentation in Village Creek, an eventual source of drinking water and a 303d Impaired Water Body (per the EPA).

Project Description & Activities:

Anticipated Activities: ☐ PLANNING ☒ DESIGN ☒ CONSTRUCTION

Description: This project consists of regrading the existing grass-lined channel to prevent erosion and sediment deposition in Village Creek.

Existing Conditions: the existing 24" reinforced concrete pipe (RCP) and pavement appear to be in sound condition. Pipe flows are conveyed through a grass-lined channel onto the golf course. Erosion concerns exist for this channel.

Proposed Mitigation: Acquire necessary easements for construction of a new channel. Construct 340 linear feet of grass-lined channel (approximately 5-foot bottom width and 3-foot depth) to the limits of the existing golf course culvert.

Geographic Location (Latitude/Longitude):

32.484842 /- 97.37597 (see attached map)

Environmental Results & Benefits

The environmental and public health benefits to this project consist of greatly reducing the flooding and erosion caused by the existing failed channel. This project will eliminate standing stagnant water that breeds mosquitos and facilitates other pests harmful for public health. Also, the drinking water will have less sedimentation since reconstructing the channel will reduce erosion. The benefits of completing the project can be measured by the decreased amount of over roadway flooding.

Roles and Responsibilities of Recipient and EPA

Role of Recipient:

- As necessary, perform pertinent environmental and archaeological studies and assessments, including, but not limited to: NEPA, U.S. Army Corps Section 404, etc.
- As necessary, procure Civil Engineer for preparation of project evaluations, studies, and construction documents (plans and specifications). Procurement shall be carried out in manner commensurate with federal regulations required by the grant process, including meeting all good faith efforts and the requirements of 40 CFR 33.
- Perform Quality Assurance and Quality Control (QA/QC) to verify that project elements comply with applicable federal statutes and regulations.
- Procure Contractor for construction of improvements. Procurement shall be carried out in manner commensurate with federal regulations required by the grant process, including meeting all good faith efforts and the requirements of 40 CFR 33.
- Provide oversight during construction (inspection) and process payments and disbursements.
- Recordkeeping, reporting, and communication of project needs and status with EPA Project Officer as necessary and required.
- Process reimbursement requests through EPA.

Role of EPA:

- Ensure project compliance with grant terms and conditions.
- Review and approve procurement process.
- Review professional services and construction contracts and amendments as dictated by contract amount.
- Onsite evaluations and final inspection.
- Reimbursement.

Project Schedule:

Design:	2/2017-6/2017
Bid:	8/2017
Construction:	10/2017-2/2018

Project Budget:

Project 7 - Mountain Valley Outfall # 2
Conceptual Opinion of Probable Cost

ITEM NO.	DESCRIPTION OF ITEMS	QUANTITY	UNIT	UNIT COST	TOTAL
1	General Site Preparation	1	LS	$3,450.00	$3,450.00
2	Excavation / Channel Grading	478	CY	$40.25	$19,239.50
3	Block Sodding (Staked)	1360	SY	$8.05	$10,948.00
4	Curlex FibreNet Erosion Control Blanket	190	SY	$8.05	$1,529.50
5	Easement Acquisition	16,660	SF	$0.58	$9,662.80
6	Miscellaneous Utility Adjustment	1	LS	$5,667.00	$5,667.00
	SUBTOTAL BASE BID				**$50,496.80**
	DESIGN / ENGINEERING / SURVEYING				**$7,574.48**
	TOTAL PROJECTED CONSTRUCTION COST				**$58,071.00**

Project Title: **Project 8 – Mountain Valley Outfall # 3 (3304 Mountain Valley Blvd)**

Applicant Name: **City of Joshua**
101 S. Main Street
Joshua Texas, 76058
817-558-7447

Project Objective & Needs:

Mountain Valley Boulevard is one of the primary residential streets within the Mountain Valley subdivision. A tributary to Village Creek is conveyed beneath the road through a 36" circular reinforced concrete pipe (RCP), which appears to be in sound condition. Flow from the pipe enters a 36" circular high density polyethylene (HDPE pipe and traverses the existing golf course. Portions of the HDPE pipe have collapsed as a result of overland vehicular and foot traffic and now poses a risk to public health and welfare. An existing grass-lined channel which receives flow from the HDPE pipe shows signs of erosion, resulting in further sedimentation in Village Creek, an eventual source of drinking water and a 303d Impaired Water Body (per the EPA).

Project Description & Activities:

Anticipated Activities: ☐ PLANNING ☒ DESIGN ☒ CONSTRUCTION

Description: This project consists of reconstruction of the HDPE pipe and construction of new headwalls at either end of the pipe, as well as regrading the existing grass-lined channel to prevent erosion and sediment deposition in Village Creek.

Existing Conditions: the existing 24" reinforced concrete pipe (RCP) and pavement appear to be in sound condition. Pipe flows are conveyed through a grass-lined channel onto the golf course. Erosion concerns exist for this channel.

Proposed Mitigation: Reconstruct downstream headwall of the 36" RCP (the pipe itself appears to be in sound structural condition and does not require replacement). Remove approximately 340 linear feet of 36" HDPE pipe and replace with 36" RCP pipe to provide higher structural integrity, in consideration of the high volume of vehicular and pedestrian uses. Reconstruct both headwalls for the new pipe. . Regrade approximately 250 linear feet of grass-lined channel (approximately 6-foot bottom width and 3-foot depth) to convey discharge into creek and reduce overland erosion and creek sedimentation.

Geographic Location (Latitude/Longitude):

32-485913 /- 97.375302 (see attached map)

Environmental Results & Benefits

The environmental and public health benefits to this project consist of greatly reducing the flooding and erosion caused by the existing failed channel. This project will eliminate standing stagnant water that breeds mosquitos and facilitates other pests harmful for public health. Also, the drinking water will have less sedimentation since reconstructing the channel will reduce erosion. The benefits of completing the project can be measured by the decreased amount of over roadway flooding.

Roles and Responsibilities of Recipient and EPA

Role of Recipient:

- As necessary, perform pertinent environmental and archaeological studies and assessments, including, but not limited to: NEPA, U.S. Army Corps Section 404, etc.
- As necessary, procure Civil Engineer for preparation of project evaluations, studies, and construction documents (plans and specifications). Procurement shall be carried out in manner commensurate with federal regulations required by the grant process, including meeting all good faith efforts and the requirements of 40 CFR 33.
- Perform Quality Assurance and Quality Control (QA/QC) to verify that project elements comply with applicable federal statutes and regulations.
- Procure Contractor for construction of improvements. Procurement shall be carried out in manner commensurate with federal regulations required by the grant process, including meeting all good faith efforts and the requirements of 40 CFR 33.
- Provide oversight during construction (inspection) and process payments and disbursements.
- Recordkeeping, reporting, and communication of project needs and status with EPA Project Officer as necessary and required.
- Process reimbursement requests through EPA.

Role of EPA:

- Ensure project compliance with grant terms and conditions.
- Review and approve procurement process.
- Review professional services and construction contracts and amendments as dictated by contract amount.
- Onsite evaluations and final inspection.
- Reimbursement.

Project Schedule:

Design:	2/2017-6/2017
Bid:	8/2017
Construction:	10/2017-2/2018

Project Budget:

Project 8 - Mountain Valley Outfall # 3
Conceptual Opinion of Probable Cost

ITEM NO.	DESCRIPTION OF ITEMS	QUANTITY	UNIT	UNIT COST	TOTAL
1	General Site Preparation	1	LS	$5,750.00	$5,750.00
2	Removal of HDPE / Headwalls	1	LS	$9,200.00	$9,200.00
3	Excavation / Channel Grading	491	CY	$40.25	$19,762.75
4	36" RCP	340	LF	$207.00	$70,380.00
5	Concrete Headwalls	3	EA	$5,175.00	$15,525.00
6	Block Sodding (Staked)	1,420	SY	$8.05	$11,431.00
7	Curlex FibreNet Erosion Control Blanket	167	SY	$8.05	$1,344.35
8	Easement Acquisition	12,500	SF	$0.58	$7,250.00
9	Miscellaneous Utility Adjustment	1	LS	$5,687.00	$5,687.00
	SUBTOTAL BASE BID				**$146,330.10**
	DESIGN / ENGINEERING / SURVEYING				**$21,949.59**
	TOTAL PROJECTED CONSTRUCTION COST				**$168,280.00**